



Spiral-wound gaskets

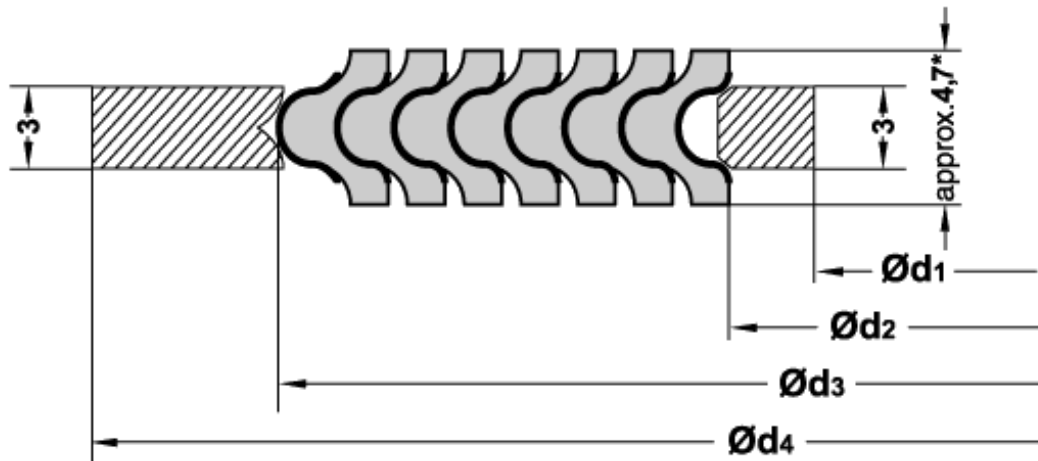
Spiral-wound gaskets

with inner and outer supporting rings for welded flanges with raised face and specified via PN and Class, Data Sheet 923/925

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Please see the latest issue at www.reinz-industrial.com

Dimensions in mm



* incl. protruding filling tape

Material

Stainless steel strip:	Stainless steel 1.4541 (321), approx. 0.20 mm thick
Graphite sealing tape:	Ash content $\leq 2\%$, chloride content ≤ 50 ppm, initial density approx. 1 g/cm ³ , approx. 0.50 mm thick
Outer supporting ring:	Carbon steel with corrosion inhibitor, approx. 3.00 mm thick
Inner supporting ring:	Stainless steel 1.4541 (321), approx. 3.00 mm thick



Spiral-wound gaskets

Properties

Inner ring (stainless steel 1.4541):

- Inward confinement of the spiral and consequently high protection against blowout into the inner pipe space.
- Enhances compression of the graphite filler and spiral elasticity.
- Prevents turbulence of the flowing medium within the gasket gap.
- Prevents media or deposits of foreign substances in gasket gap.
- Increases ease of handling and assembly of the sealing element.
- Stainless steel has a high resistance to a wide range of media up to approx. 550 °C.

Spiral (stainless steel 1.4541) with graphite filler:

- Very high conformability to irregular, non- planar or distorted flanges and to machining roughness of sealing faces.
- Good axial- radial compression of the graphite filler and therefore good cross-sectional sealing integrity.
- Very elastic and resistant to stress even under high temperatures, thus requires no retorquing. Bolt pre- torques and required gasket surface pressure are therefore maintained at a very high level, even with excessive fluctuations of pressure and temperature.
- Highly resistant to a wide range of media up to approx. 550 °C.
Note: In contact with air, the temperature on the outside of the spiral or the graphite filler should not exceed 450 °C in continuous operation, as otherwise there will be graphite weight loss depending on temperature, graphite ash content, and the surface exposed.
- High chemical and thermal resistance of the graphite filler against:
 - Inert/ reducing gases:
resistant up to more than 1000 °C
 - Molten metals:
resistant up to the temperature limit of carbide formation,
not resistant to molten alkalis
 - Steam and CO₂:
from approx. 700 °C upwards, strong reactions will occur
up to approx. 450 °C resistant to steam for long periods.
 - All other media:
resistant, but not resistant against highly oxidizing media

Outer ring (carbon steel):

- Outward confinement of the spiral, consequently high protection against blowout and rupture
- Acts as a compression stop to prevent the spiral component from being deformed and crushed
- Enhances compression of the graphite filler and spiral elasticity
- Ensures centering of the entire sealing element over bolts
- Resistant to corrosion under normal atmospheric conditions



Spiral- wound gaskets

Application

- Spiral- wound graphite gaskets are widely used in piping, fittings, apparatus, and plant engineering where high mechanical, thermal and chemical stresses are encountered, and wherever fibre (FA) and graphite (GR) materials can no longer be used. This is the case for example for pressures up to and above 300 bar, and temperatures up to and above 550 °C, particularly with extreme changes in pressure and temperature.
- Whilst the original classical application was in the petrochemical industry, today there is hardly any industrial sector that does not make use of spiral- wound graphite gaskets. One of the main applications is steam sealing at high pressures or temperatures (superheated steam).
- Spiral- wound graphite gaskets will tolerate certain irregularities and flange or sealing face deformations more than most other gasket types.

Gasket characteristics

See corresponding [Table](#).

Dimensions

For PN- type flanges acc. to EN 1514-2
For Class- type flanges acc. to ASME B16.20

Notes

- For larger quantities, different dimensions, materials and/ or versions from those specified here can be requested.
- The flat surface of the outer ring can be marked with nominal diameter, nominal pressure, material no., and manufacturer's ID.



The data quoted above are valid for the material "as delivered" without any additional treatment. In view of the countless possible installation and operating conditions, definitive conclusions cannot be drawn for all applications regarding the behaviour in a sealed joint. Therefore, we do not give any warranty for technical data, as they do not represent assured characteristics. If you have any doubt, please contact us and specify the exact operating conditions.